REMARKS

The Office Action of March 19, 2008 has been reviewed and the comments therein carefully considered. This application has been amended. Specifically, the limitation previously appearing in claim 2 has been incorporated into claim 1. In addition, claims 3 and 5 have been amended to clarify that the Fe ratio was intended to refer to the Fe content. Support for this amendment can be found on page 8, lines 11-12 of the application as filed. Thus, no new matter has been added and claims 1 and 3-7 are currently pending.

Rejection of Claims 3 and 5 Under 35 U.S.C. § 112, Second Paragraph

Claims 3 and 5 stand rejected under 35 U.S.C. § 112, second paragraph for indefiniteness. Specifically, it is contended that the use of the term "ratio" in each of these claims is indefinite because Applicants have not defined what values are used to determine the ratio. In response, Applicants have amended claims 3 and 5 to replace the "Fe at a ratio" language with "Fe at a content of". This is consistent with the interpretation given to the claim during examination. As a result of this amendment, Applicants submit that claims 3 and 5 are sufficiently definite and the rejection under 35 U.S.C. § 112, second paragraph should be withdrawn.

Rejection of Claims 1-7 Over Hattori et al.

Claims 1-7 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Japanese Patent Application Publication No. 2005-319481 to Hattori et al. Applicants respectfully submit that Hattori is not a proper Section 102(a) reference and thus this rejection should be withdrawn.

The present application represents the national phase of International Patent Application No. PCT/JP04/14545, which was filed on September 27, 2004. Thus, the effective filing date of the subject application is September 27, 2004. M.P.E.P. § 706.02, subpart IV.

On the other hand, Hattori et al. was published in Japan on November 17, 2005. Pursuant to § 706.02(a) of the M.P.E.P., "[f]or 35 U.S.C. § 102(a) to apply, the reference must have a publication date earlier in time than the effective filing date of the application, and must not be applicant's own work." Because the publication date of Hattori is well after the effective filing date of the subject application, Hattori is not a proper reference under 35 U.S.C. § 102(a).[1]

Because Hattori is not a proper prior art reference, Applicants respectfully request that the rejection of claims 1-7 under 35 U.S.C. § 102(a) based on Hattori be withdrawn.

Rejection of Claims 1-7 Under 35 U.S.C. § 103(a)

Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as being obvious over United States Patent Application Publication No. 2001/0016268 to Maki in view of Japanese Patent Application Publication No. 2003-145278 to Iwase et al. In view of the foregoing amendments and the following remarks, Applicants traverse this rejection.

Maki is directed to a hot-dipped, Al-coated steel sheet having a coating layer for a fuel tank. Maki discloses that the plating bath used to form the Al-coating layer contains 2% Fe. (Maki, paragraph 90). Maki does not, however, disclose or suggest that the coating layer itself has 2% Fe, or any amount of Fe for that matter. In fact, the amount of Fe in the coating layer is not actually measured in Maki and, therefore, the Office Action is incorrect to say that the Al coating of Maki's steel sheet contains 2% or less Fe and thus reads on the limitation in claim 1 of a Fe content of between 0.5% and 5%.

Further, Maki fails to recognize the relationship between the level of Fe in the coating layer and the strength of the weld points between the steel and aluminum substrates. As described by Applicants on pages 4-6 of the application, inclusion of 0.5% or more Fe in the coating layer significantly influences the formation of an Al-Fe binary alloy layer at the joint boundary. An increase in Fe concentration in the coating layer advantageously suppresses dissolution of Fe from the steel substrate into the molten Al. However, too much

[1] Applicants additionally note that the PCT application claims priority to Japanese Patent Application No. 2003-336641, which was filed on September 29, 2003. Thus, Applicants can establish an invention date at least as early as September 29, 2003, though doing so is not necessary to overcome Hattori.

Fe can detrimentally affect the corrosion-resistance and formability of the hot-dipped Al-coated steel sheet. One skilled in the art reading Maki, which is directed to a method of welding together substrates of the same material, would not anticipate or even appreciate the significance of this finding. Consequently, one skilled in the art would not find it obvious in view of Maki to include the claimed amount of Fe in the coating layer.

As currently amended, the coating layer of the structure of claim 1 is formed on a steel substrate containing between 0.002 and 0.020% N. Further, the coating layer is formed on an N-enriched surface of the steel substrate with the N concentration on the N-enriched surface being 3.0% or more. While Maki discloses a steel sheet in which the N concentration is up to 0.01%, Maki does not, as admitted in the Office Action, teach or suggest an N-enriched surface having an N concentration of 3.0% or more. Such an N-enriched surface is likewise not taught or suggested by Iwase et al. Instead, the Office Action contends that it would be obvious to have formed such an N-enriched surface on the steel substrate to act as a diffusion restrictor.

Applicants respectfully disagree that this unsupported statement provides a sufficient rationale to establish a *prima facie* case of obviousness. "Official notice [of facts] unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known." M.P.E.P. § 2144.03. Applicants submit that the use of an "N-enriched diffusion restrictor" in combination with the steel/aluminum welded structure and coating layer recited in the claims does not represent such a well-known and nonobvious fact that undocumented reliance thereon can be justified in this situation. Rather, Applicants discovery of a steel/aluminum structure exhibiting strong welding points without generating a weak alloy layer through the use of a coating layer formed on an N-enriched surface, which is a concept that was clearly outside the knowledge of Maki and Iwase et al., represents a new and nonobvious improvement in the art. Thus, Applicants submit that the rejection of claims 1-7 under 35 U.S.C. § 103(a) based upon Maki in view of Iwase et al. should be reconsidered and withdrawn.

For all of the foregoing reasons, Applicants submit that the pending claims are patentable over the cited documents of record and in condition for allowance. Accordingly, reconsideration of the outstanding rejections and allowance of claims 1 and 3-7 are respectfully requested.

Respectfully submitted,
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